INSTALLATION INSTRUCTIONS
FOR COMBINING TWO GAS FURNACES FOR PARALLEL OPERATIONS USING THE RCCL-COIL (HEATING AND AIR CONDITIONING)

⚠ WARNING

TO BE INSTALLED BY A QUALIFIED, LICENSED SERVICE PERSON. TO AVOID UNSATISFACTORY OPERATION OR DAMAGE TO THE PRODUCT AND POSSIBLE UNSAFE CONDITIONS, INCLUDING ELECTRICAL SHOCK AND FIRE, THE INSTALLATION INSTRUCTIONS PROVIDED WITH THIS KIT MUST BE STRICTLY FOLLOWED AND THE PARTS SUPPLIED USED WITHOUT SUBSTITUTION. DAMAGE TO THE PRODUCT RESULTING FROM NOT FOLLOWING THE INSTRUCTIONS OR USING UNAUTHORIZED PARTS MAY BE EXCLUDED FROM THE MANUFACTURER'S WARRANTY COVERAGE.

The following upflow furnaces may be used:

80% Gas Upflow
(-)80IT(-)125524MSA
TZ80MSX125D50SA
FF125245TS80M

90% Plus Gas Upflow
(-)95T(-)1151524MSA
TZ95MSX115D50C
FF115245TS95M

FURNACE PREPARATION AND COIL/PLENUMS

⚠ Recognize this symbol as an indication of Important Safety Information!

Cased coil assembly includes upflow coil and insulated cabinet.

1. Unpack coil assembly and blockoff channel. Inspect for damage.
2. 24″ wide furnaces
   a. Set furnaces 1½″ apart. Drill four 1/8″ diameter holes and attach blockoff channel between the two furnaces with screws provided as shown in Figures 1 and 2.
1. Set coil/plenum assembly on furnace with access cover toward flue outlet end of furnace.
2. Connect ductwork to plenum. Seal all joints around furnace, plenum and transition with duct tape.
3. Connect suction and liquid lines between coil and compressor/condenser section. Provide oil trap for suction line, if the vertical rise exceeds 3 ft.
4. Strap expansion valve sensing bulb to top of suction line on outside of cabinet. Be careful not to over tighten the clamps. See Figure 2.
5. Insulate sensing bulb and suction line.
6. The condensate drain is ¾″ NPT. Provide a 3″ trap and pitch the drain to an open sump. See Figure 3.

GAS FURNACE TWINNING

A maximum of two furnaces may be installed side by side on a common duct system and operate as one, or as first stage and second stage. The twinning procedure makes both furnace blowers operate together, whether one or both furnaces are firing. One thermostat can control both units. This is necessary if the two furnaces supply air for one 7-1/2 or 10 ton single stage cooling system.

To twin two furnaces, follow these instructions and the twinning wiring diagrams in the furnace installation manual.

IMPORTANT: ONLY TWIN FURNACES WITH IDENTICAL CONTROLS FROM THE SAME MANUFACTURER OF CONTROL BOARD.

IMPORTANT: ONLY BOTTOM RETURNS CAN BE USED. NO MORE THAN TWO FURNACES CAN SHARE THE SAME SUPPLY AND RETURN. FURNACES MUST HAVE SAME HEATING AND BLOWER CAPACITY. TWINNING FURNACES MUST OPERATE OFF THE SAME PHASE OF POWER.

NOTE: The transformer of both furnaces must be in the same phase.

FIGURE 1
BLOCKOFF CHANNEL INSTALLATION (80+)

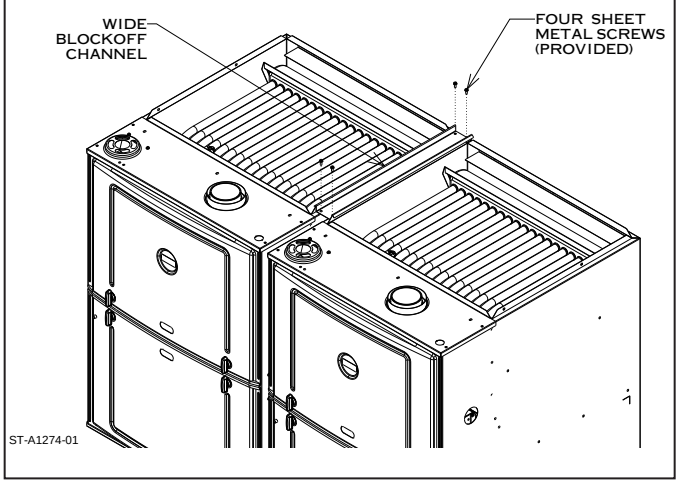
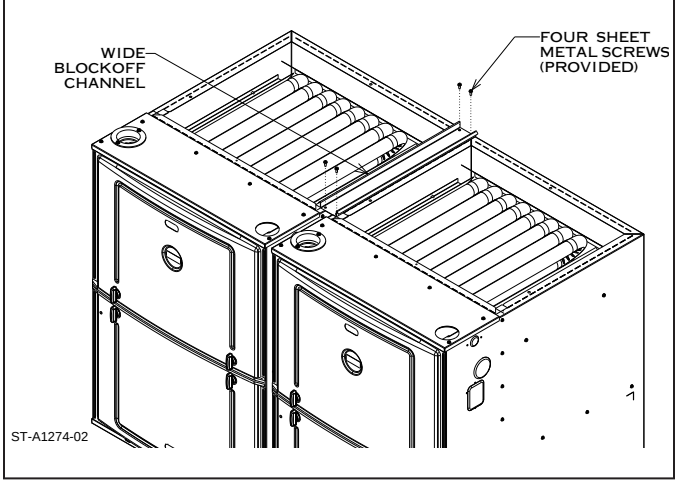


FIGURE 2
BLOCKOFF CHANNEL INSTALLATION (90+)



⚠ WARNING

TURN OFF ELECTRIC POWER AT THE FUSE BOX OR SERVICE PANEL BEFORE MAKING ELECTRICAL CONNECTIONS; FAILURE TO DO SO COULD RESULT IN AN ELECTRICAL SHOCK HAZARD, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

⚠ WARNING

BOTH FURNACE CABINETS MUST BE PERMANENTLY GROUNDED. A GROUND SCREW IN THE JUNCTION BOX IS FOR THIS PURPOSE. GROUND CONNECTIONS MUST BE COMPLETED BEFORE MAKING LINE VOLTAGE CONNECTIONS. FAILURE TO DO SO COULD RESULT IN AN ELECTRICAL SHOCK HAZARD, PROPERTY DAMAGE AND/OR PERSONAL INJURY. THE FURNACES MUST BE INSTALLED SO THE ELECTRICAL COMPONENTS ARE PROTECTED FROM WATER.

⚠ WARNING

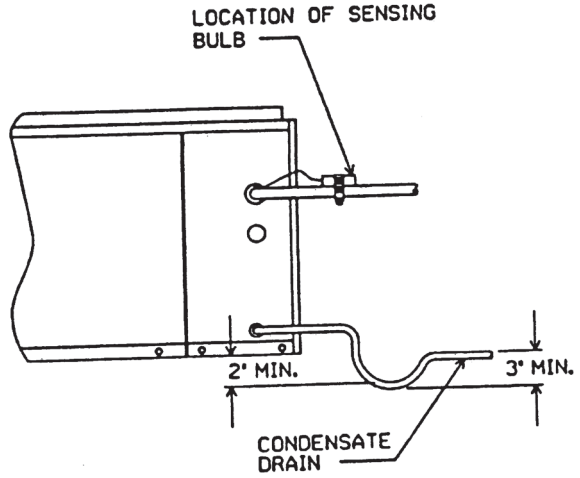
ELECTRICAL POWER MUST BE SUPPLIED TO BOTH FURNACES FROM THE SAME SEPARATE BRANCH CIRCUIT, FAILURE TO DO SO COULD RESULT IN EXPOSING THE FURNACE CONTROLS TO AN OVER VOLTAGE (230 VAC) CONDITION. THIS COULD RESULT IN DESTRUCTION OF THE CONTROL BOARDS, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

⚠ WARNING

L1 (HOT) AND NEUTRAL POLARITY MUST BE OBSERVED WHEN MAKING FIELD CONNECTIONS TO THE FURNACES. FAILURE TO DO SO COULD RESULT IN A DIRECT SHORT VIA THE CONNECTION BETWEEN THE "EAC" TERMINAL WHEN THE INDOOR BLOWER RELAY CLOSES. THIS COULD RESULT IN DESTRUCTION OF THE CONTROL BOARDS, PROPERTY DAMAGE AND/OR PERSONAL INJURY.

THE FURNACE MUST BE ON THE SAME BRANCH CIRCUIT WITH ADEQUATE AMPACITY AND OVERCURRENT PROTECTION. DO NOT USE EXISTING LIGHTING OR OTHER CIRCUITS.

FIGURE 3
COIL INSTALLATION



NOTE: See the furnace rating plates for motor HP ratings, electrical characteristics, and amp draw.

NOTE: Use time delay fuses or circuit breakers.

All electrical work must conform with the requirements of local codes and ordinances and the National Electric Code ANSI / NFPA–No. 70 latest edition or the Canadian Electrical Code Part 1 – CSA Standard C22.1 for Canadian installations.

TWINNING

FURNACE TWINNING INSTALLATIONS

Twinning operation of two furnaces, installed side-by-side, connected by a common duct system with main power supplied by the same source, and controlled by a common thermostat can be done with the UT Electronic Controls 1194-250 integrated control boards.

IMPORTANT: Only twin furnaces with identical control boards.

IMPORTANT: Only bottom returns can be used. No more than two furnaces can share the same supply and return. Furnaces must have same heating and blower capacity. Twinning furnaces must operate off the same phase of power.

It should be noted that both blowers will run simultaneously when there is a call for heating, cooling or fan.

NOTE: Duct system must be adequate to provide correct airflow to each furnace for supply and return.

UT ELECTRONIC CONTROLS 1194-250 CONTROL BOARD

1. Single Stage Operation
    a. Control board “ONE” is on furnace connected to the thermostat.
    b. The 24 VAC supply to both control boards must be in phase with each other.
    c. Connect the “C,” “W” and “TWIN” terminals to counterparts on each control.
    d. Twinning is automatically detected when wire is connected to the twin terminal on both controls. If twinning is detected and then lost in the same power cycle, the furnace control will declare and display fault code 20 at the seven-segment display.

Note: If power is lost from the slave unit fault code 20 will display but the master will continue in cooling mode. In heating mode if either unit loses power the unit will display fault code 20 and the heat cycle will end immediately.

See Figure 4 for twinning wire diagram for 1-stage thermostat.

See Figure 5 for twinning wire diagram for 2-stage thermostat.

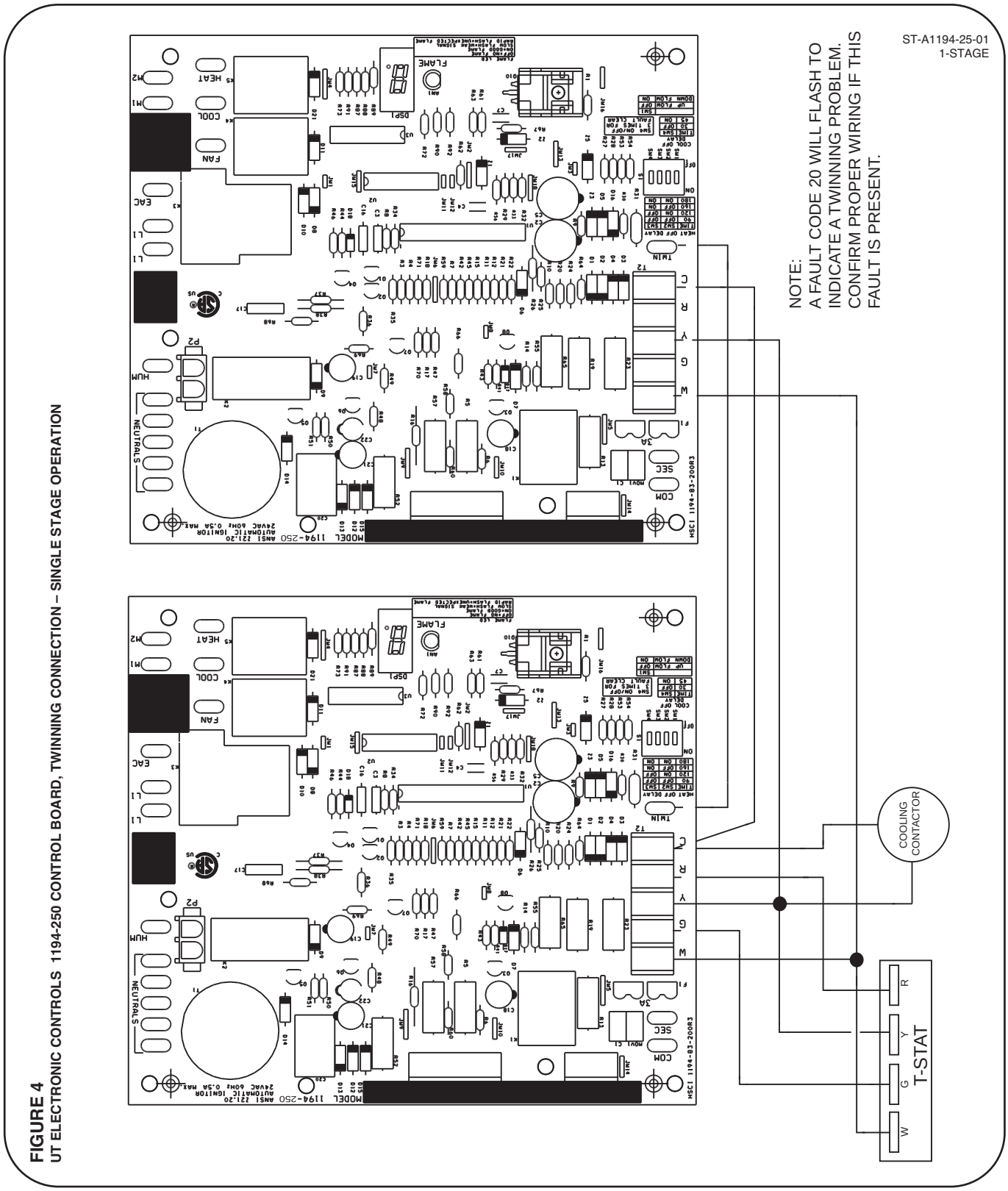
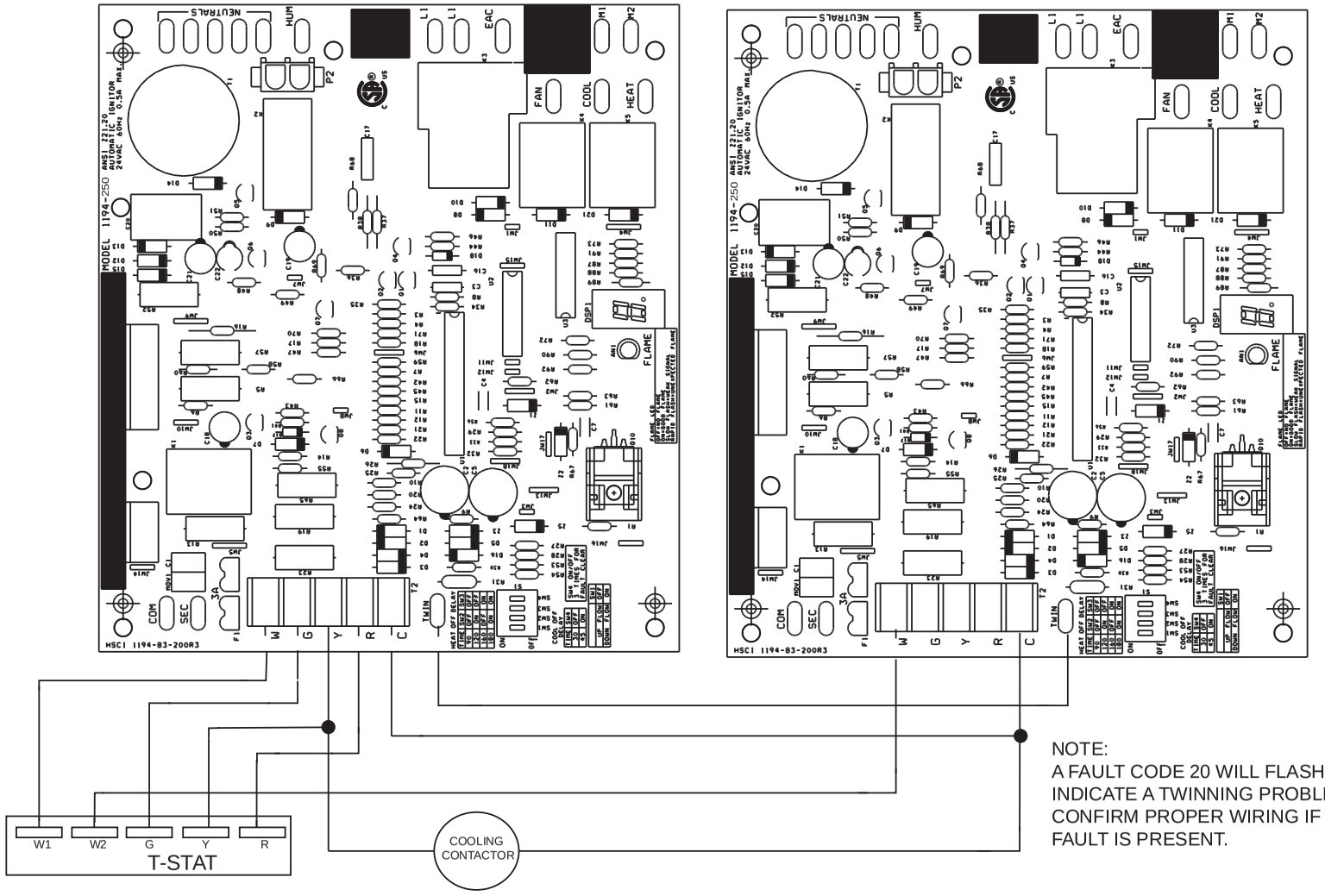


FIGURE 4
UT ELECTRONIC CONTROLS 1194-250 CONTROL BOARD, TWINNING CONNECTION – SINGLE STAGE OPERATION

FIGURE 5 1194-250 CONTROL BOARD, TWINNING CONNECTION – TWO STAGE OPERATION



NOTE:
A FAULT CODE 20 WILL FLASH TO INDICATE A TWINNING PROBLEM. CONFIRM PROPER WIRING IF THIS FAULT IS PRESENT.

ST-A1194-25-01
2-STAGE